EXHIBIT 46

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AWBid 2021 Strategy Paper
Last updated: Aug 3, 2020

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Strategic Questions

1. What is the strategic value of AWBid?
2. What should be the path forward for AWBid?

> **Commented [1]:** we should also cover
> 1. role of AWBid post Cramalgam and what it means for upside
> 2. role of AWBid compared to other inventory efforts. how do we position the produce, what principles guide us?

Executive Summary

- AWBid plays a unique strategic role beyond its economic value.

- Access to 3rd Party inventory is a core functionality for Google Ads advertisers, and is becoming ever-more important in the context of universals/uberversals and automation. The value of AWBid as an automated and safe way to buy 3PE inventory naturally carries over to Cramalgam.

- In many markets and segments (e.g. app, CTV, remarketing and local markets with low inventory coverage) access to 3rd-party exchange ("3PE") inventory is fundamental to our buyside competitiveness.

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- AWBid has exhibited remarkable resilience to external shocks (e.g. COVID-19) and strategically adds to the diversity and robustness of our business.

- Today, AWBid is constrained in many ways. Buying 3PE inventory through a handicapped pipe yields suboptimal results for Google and for advertisers.

- We should make AWBid a fully-functional pipe into 3PE inventory and establish clear principles and guardrails on how Google Ads buys 3PE inventory.

AWBid Background

Google Ads buys AdX, AdSense, AdMob and 3PE inventory. Google Ads buying on 3PE is referred to as AWBid.

AWBid was originally built to close a gap in our offering: to increase reach of remarketing campaigns to third party exchange inventory and to solidify AdWords as a programmatic buying

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tool. Over the years, AWBid targeting has been expanded to include contextual keywords, ICM, Custom-In-Market, etc. Types of inventory was recently approved to expand into mobile apps and mWeb (AViD review date: Jan 23, 2020).

AWBid currently buys from ~50 3PEs with an ARR of $450M, with remarketing accounting for ~85%. The remarketing portion accounts for 11% of GDA remarketing spend, most of which is incremental (backed by reverse experiment).

AWBid charges a 33% fixed margin on remarketing spend (on par with the rest of GDA which charges both buyside and sellside margins) and 50% margin on non-remarketing spend.

Historically, we have taken a very cautious approach to buying 3PE inventory by constraining AWBid in several ways:
- High margins: the 33% buyside AWBid margin on remarketing traffic is on par with typical Google buyside+sellside margin. On top of that, 3PEs usually charge additional margins or fees, making the overall take rate higher than buying on AdX. For non-remarketing, the buyside margin is even higher at 50%.
- GDN audience data cannot be used for targeting on AWBid.
- Some demand sources are excluded from AWBid. E.g., SDC, Search+, UAC.
- AWBid currently only buys web inventory and excludes video and app.
- Stringent latency requirements: we impose a 100ms cap for AWBid while there are no such requirements on AdX.
- We are not yet buying on all 3PEs.

Strategic Value of AWBid

Besides being a high margin business in its own right, AWBid plays a unique strategic role in Google Ads and Google at large.

Advertiser Value
Access to a wide range of inventory sits at the core of Google Ad's advertiser value proposition. As we shift towards universals/uberversals and automation, advertisers should have the ability to buy any inventory that delivers the best performance. Access to 3PE inventory is a prerequisite for optimizing spending across channels and maximizing advertiser value. Compared to DV360, AWBid differentiates itself as an automated and safe way to buy 3PE inventory with strong guardrails and high quality stands. With these virtues, AWBid should continue to play a critical role in the post-Cramalgam world.

Competitive Landscape
Key competitors such as Amazon and Facebook buy heavily on 3PE to provide advertisers with the best performance possible. For example, Facebook Audience Network is a buyer in AdMob open bidding, giving advertisers access to both AdMob and Facebook inventory on one platform. Lack of or limited 3PE access would significantly undermine Google Ads' value proposition and competitive position.

Commented [2]: 50?

Commented [3]: About 17-18 of them are direct integrations and the rest are integrated via Bidswitch. Overall its 50+ exchanges. https://docs.google.com/spreadsheets/d/10KuCRwL5bl R82F-auOvDctVAsiEelwfKUh4uLKGEUeU/preview

Commented [4]: Is there additional technical work to allow this? do we know the scope?

Commented [5]: Yes it will be relatively straightforward if we enable it on DV3 and AWBid, but it is unlikely due to the potential risks (e.g. competition) for DV3. If we only do it just for AWBid, there will be significant work. @santoshkc@google.com has more details here.

Commented [6]: Ethan's comment already covered the important detail about how the product/business decision will change the amount of SWE work needed drastically.

Commented [7]: are you sure? I thought S+ is included. do you know when we decided to exclude?

Commented [8]: _Marked as resolved_

Commented [9]: _Re-opened_ Search+ is not enabled yet (it has other challenges) but I think SDC is already launched.

Commented [10]: the question here is what our benchmark should be. in the past we tried to get as close to the same coverage as DBM as possible (revenue weighted)

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Legal Environment

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Hedging External Risks

In the midst of overall revenue weakness resulting from COVID-19, AWBid exhibited remarkable resilience and sustained its growth momentum (20-25% YoY growth). In this particular case, the strong performance reflects decreased competition and auction pressure on 3PE inventory. Strategically, the event demonstrated AWBid's ability to diversify the Google Ads business and increase our flexibility to withstand external shocks.

Path Forward

While it may not necessarily be in Google's best interest for Google Ads to buy freely on 3PEs as if they were AdX, limiting 3PE buying by brutally handicapping the pipe (AWBid) yields suboptimal results. A better approach would be to make AWBid robust and fully functional and optimizing spending on top of that by establishing spending principles and guardrails. Therefore, this section explores the path forward by separately outlining ways to expand AWBid's capabilities, and discussing buying principles Google Ads should put in place with respect to 3PE inventory.

Expand AWBid Capabilities

To make AWBid a robust 3PE buying channel for Google Ads, we need to invest in the following areas. More details can be found on the <u>AWBid opportunities list</u>.

- Less constrained GTM efforts.
- Enable/scale more inventory types (app, video), exchanges, geographies (China and others), formats (native), targeting types (cookieless).
- Enable more demand sources (UAC, Search+, SDC, etc.).
- Improve yield and buying efficiency (enable GDA audience, margin adjustments, bidding model improvements)
- Improve operational efficiency (discrepancy, unifying infrastructure and models)
- Latency improvements?

What's the Potential?

- Today AWBid only buys 3PE web traffic without using AdX user profile data and charging a 33-50% margin. The average win rate of AWBid on eligible queries is ~2%, roughly ½ that of DV360.
- Assuming: 1) we expand AWBid to app (+200M ARR) and video (+100M ARR) inventory. 2) through margin tuning and quality improvements, we improve win rate to be

Commented [11]: this is probably due to query inflation by 10-20x

Commented [12]: True but the same is true in DV3. The 1/2 is also interesting here. What is the best theory there? Does RMKT explain the diff?

Commented [13]: The latest stats is more like 2/3. But still there is a gap and there is something we don't have a good definitive explanation for. We actually have most non-remarketing types available on AWBid as well but they account for a small % of revenue. Maybe our investigation could help to answer this. Other reasons could include latency cap, margin, spam filter, etc.

Commented [14]: probably can be explained w/ AWBid being RMKT only?

Commented [15]: let's understand why non-RMKT isn't working as well as it should by using AdX as the baseline.

Commented [16]: few questions:

- what happens to DBM if we do this. is there a negative revenue hit or is it offset by increased auction pressure

- be clear on what roles margin tuning if any plays as part of this estimate

Commented [17]: I am curious how we arrived at this number for video?

Commented [18]: This is a back-of-envelope calculation based on 15% of GVP (500M+), RDA video (60-100M) and other demand sources.

on par with DV360 (revenue x2); and 3) use AdX user profile for targeting (increase non-remarketing revenue, half of total, by 50%).
- AWBid ARR could reach: (450+200+100)*2*(0.5+0.5*1.5)=$**1,875M**
- Note: the estimated lift from the improvements and expansions outlined in this document are made on a standalone basis. In reality, many of these initiatives reinforce one another, potentially leading to further upside. For example, if we can significantly increase win-rate through a combination of AdX user profiles, margin adjustments and quality improvements, we can make a stronger case to enable new demand sources such as SDC non-remarketing.

Top Priorities for 2020
- Expansion to app inventory ($65M for remarketing)
    - Expand AWBid to 3PE app inventory by building a 3PE IVT signal collection mechanism.
    - Status: received AViD approval in Jan 2020 and project is currently proceeding according to plan. Starting exchange outreach in June 2020. Resource committed from other teams.
- Data co-op (initially $75-80M ARR, potentially further upside)
    - Use GDN audience profile for targeting on 3PEs.
    - Status: it is unlikely that we can launch this feature on DV360. Segregating AWBid for this launch requires Eng resource commitment from SA/DPG and ICM/CIM teams.
- Launch UAC ($135M ARR) and other demand sources on AWBid
    - Launching UAC on AWBid is dependent on AWBid's expansion to app inventory. The project requires top-down prioritization and resource commitment from the UAC team (modeling, conversion tracking, infra/BOW).
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Resource Ask

The most recent reorg reduced AWBids' Eng HC from 6 to 2.5. Going forward, we are working on ways to improve operational efficiency by sharing tasks between AWBid and DBM. However, in order for us to carry out the critical expansion tasks, we need to have access to additional engineering resources on the AWBid team in addition to support from other Eng teams for specific projects (e.g., UAC).
1. **1.5 SWEs (50% capacity of 3 SWE's)** to keep the lights on
2. **1.5 SWEs** to support app expansion and margin tuning (two projects conducted in series)
3. **0.5 SWEs** to support data co-op project + 2 SWEs for 1 quarter from SA/DPG and ICM/CIM
4. **1 SWE** to support UAC project + 3 SWEs for 0.5 quarter from UAC team.

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5. **1 SWE** to support future expansion projects such as video, native and China + external resources as needed.